fluorine-providing gas, an oxygen-providing gas and at least one precursor gas selected from the group consisting of an organosilane and an organosiloxane; and

c. applying energy to the gaseous reagents in said chamber to induce reaction of the gaseous reagents and to form on the substrate a film represented by the formula $Si_vO_wC_xH_yF_z$, where v+w+x+y+z = 100%, v is from 10 to 35 atomic%, w is from 10 to 65 atomic%, y is from 10 to 50 atomic%, x is from 2 to 30 atomic%, and z is from 0.1 to 15 atomic%, wherein substantially none of the fluorine is bonded to the carbon.

27. (Amended) The method of claim 18, wherein at least one of the at least one precursor gas and the fluorine-providing gas is a cyclic or linear organosiloxane, which contains at least one Si-F bond.

47. (Amended) The method of claim 18, wherein the film has a modulus of elasticity and a nanoindentation hardness greater than those of an organosilica glass film stoichiometrically equivalent to the film but for the absence of fluorine in the organosilica glass film.

57. (Amended) The method of claim 18, wherein said energy is applied by at least one of thermal, plasma, pulsed plasma, helicon plasma, high density plasma, inductively coupled plasma, and remote plasma techniques.

72. (Amended) In a method for producing an organosilica glass film comprising chemical vapor deposition of organosilane or organosiloxane to produce the organosilica glass film, the improvement wherein a source of inorganic fluorine codeposits inorganic fluorine in a presence of an oxygen-providing gas during at least a portion of said deposition of the